

REMARKS

Claims 1 to 4, 7 to 10, 13 to 16 and 19 to 24 are now pending and being considered (since claims 5, 6, 11, 12, 17 and 18 were withdrawn in response to a restriction requirement and since claims 25 to 72 were canceled in the Preliminary Amendment).

It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants respectfully request that the Examiner acknowledge whether the Drawings are accepted in the next Office Communication, and also acknowledge the claims for foreign priority.

With respect to paragraph four (4) of the Office Action, claims 1, 3, 7, 9, 13, 15, 19, 21 and 23 were rejected under 35 U.S.C. § 102(e) as unpatentable over U.S. Patent No. 5,915,027 (“Cox et al.”).

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102, the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See Scripps Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the prior Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter. (See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Office must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; and see *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'l. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic.

As to claim 1 (and the other corresponding independent claims having like features as discussed below), the Cox reference does not identically disclose (nor suggest) the claim feature of “obtaining a complexity of said block data; obtaining an amount of transformation of said frequency coefficient from said complexity and said digital watermark data by using a

quantization width; embedding said digital watermark data in said digital data contents by transforming said frequency coefficient by said amount”, as provided for in the context of the claim.

As is apparent from any reading of claim 1, the recited “complexity” is a complexity of the digital data contents in which digital watermark is embedded. The Office Action asserts that Cox discloses (in column 8, lines 40-54) the feature of obtaining the complexity. In fact, however, the text relied upon only refers to inserting a PN noise sequence into the coefficients -- and does not in any way identically disclose (nor even suggest) the feature of obtaining a complexity of digital data contents, as provided for in the context of the claimed subject matter.

Still further, the cited text of Cox only refers to dividing an image into 8 x 8 blocks, obtaining DCT coefficients, inserting the PN sequence into the DCT coefficients, and cyclically rotating the PN sequence by one frequency coefficient prior to insertion. The purpose for performing the rotations or shifts is discussed at lines 55 to 57 of column 8, and concerns solving the problem in which one or more of the estimated watermark coefficients may be significantly degraded relative to the other watermark coefficients.

Such processes discussed in Cox are targeted for PN sequence that is information to be embedded into the digital data contents, and the processes are not related to obtaining “complexity” of the digital data contents.

As explained above, since Cox does not identically disclose (nor suggest) the claim feature of “complexity”, Cox cannot identically disclose (nor suggest) the feature of obtaining the amount of transformation of said frequency coefficient from said complexity, and transforming said frequency coefficient by said amount.

In the present application (page 20, line 12 to page 21, line 8), in an embodiment of the present invention, digital watermark is embedded with a greater strength (transformation amount is large) in a complex part (including many high frequency components) of the digital data contents since perceptual sensitivity for noise is low, and digital watermark is embedded with a weaker strength in a non-complex part (including few high frequency components) of the digital data contents since perceptual sensitivity for noise is high. By performing such processing, both of the quality of the watermarked digital data contents and the watermark durability can be improved while keeping the quality and the durability in balance. Obtaining this effect becomes possible by the claim 1 feature of “obtaining the amount of transformation from the complexity, and changes the frequency coefficients by that amount”.

As to claim 3 (and the other corresponding independent claims having like features as discussed below), the Cox reference does not identically disclose (nor suggest) the feature of “obtaining an amount of transformation of said frequency coefficient from said digital watermark data by using a quantization width corresponding to said frequency coefficient, said quantization width being obtained beforehand according to a manipulation method of said digital data contents; embedding said digital watermark data in said digital data contents by transforming said frequency coefficient by said amount”, as provided for in the context of claim 3.

As to this claim 3 feature, the Office Action relies upon the text at lines 47 to 58 of column 5 and the text at lines 3 to 49 of column 6 in the Cox reference. The cited portion of column 5 (lines 47-58) refers to extracting watermark using correlators and an error corrector, and the cited portion of column 6 (lines 3-49 refers to watermark insertions and extraction procedures. It is self-evident that the cited text does not even relate – let alone identically disclose, as is required for anticipation – the claim feature.

This is especially the case as to the feature of the “quantization width being obtained beforehand according to a manipulation method of said digital data contents”. In particular, since no corresponding portion in Cox can be found based on the Office Action’s assertions, it is assumed for purposes of this response that the Office Action assertion that the text statement: “In order to avoid this problem, the present invention places a watermark in predetermined locations of the spectrum, typically the first N coefficients. However, any predetermined locations could be used, though such locations should belong to the perceptually significant regions of the spectrum if the watermark is to survive common signals transformations such as compression, scaling, etc.” (column 6, lines 39-46 in Cox) assertedly corresponds to the claim feature of the “quantization width being obtained beforehand according to a manipulation method of said digital data contents”.

In fact, however, this portion of Cox does not identically disclose (nor suggest) the feature of obtaining quantization width according to a manipulation method of the digital data contents, as provided for in the context of the claimed subject matter.

Still further, since Cox does not identically disclose (nor even suggest) the feature of “quantization width being obtained beforehand according to a manipulation method of said digital data contents”, Cox can not identically disclose (nor even suggest) the feature of “obtaining an amount of transformation of said frequency coefficient from said digital watermark data by using a quantization width corresponding to said frequency coefficient,

said quantization width being obtained beforehand according to a manipulation method of said digital data contents; embedding said digital watermark data in said digital data contents by transforming said frequency coefficient by said amount”, as provided for in the context of claim 3.

Also, as described at page 26, line 28 to page 27, line 1 in the specification of the present application (according to an exemplary embodiment), according to the amount of change of digital data contents from original data for each frequency band due to manipulation such as non-reversible compression, the watermark strength is raised to a band when the amount is large, and the watermark strength is reduced when the amount is small. Accordingly, both the quality of watermarked digital data contents and the durability of digital watermark data can be improved at the same time.

Such processes become possible by using the feature of “obtaining an amount of transformation of said frequency coefficient from said digital watermark data by using a quantization width corresponding to said frequency coefficient, said quantization width being obtained beforehand according to a manipulation method of said digital data contents; embedding said digital watermark data in said digital data contents by transforming said frequency coefficient by said amount”, as provided for in the context of claim 3.

Accordingly, the rejected claims are allowable, as are their respective dependent claims.

With respect to paragraph six (6), claims 2, 4, 8, 10, 14, 16, 20, 22, and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cox in view of “Ho et al.”, U.S. Patent No. 6,983,057.

Claims 2, 4, 8, 10, 14, 16, 20, 22, and 24 depend from claims which are allowable over Cox, as explained above. Accordingly, these dependent claims are allowable for the same reasons as their respective base claims, since the secondary reference does not cure – and is not asserted to cure – the critical deficiencies of the Cox reference.

Accordingly, claims 2, 4, 8, 10, 14, 16, 20, 22, and 24 are allowable.

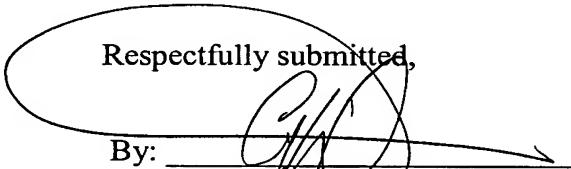
It is therefore respectfully submitted that claims 1 to 4, 7 to 10, 13 to 16 and 19 to 24 are allowable.

Conclusion

It is therefore respectfully submitted that all of claims 1 to 4, 7 to 10, 13 to 16 and 19 to 24 are allowable. It is therefore respectfully requested that the rejections be withdrawn, since all issues raised have been addressed and obviated. An early and favorable action on the merits is therefore respectfully requested.

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Respectfully submitted,

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